

We claim:

1. A method for determining whether a receiver is present on a PCI-Express link, said method comprising the steps of:

5 adjusting a common mode voltage by injecting a current into one or more transmitter output nodes; and

detecting whether a receiver is present on said PCI-Express link based on a voltage change rate.

10 2. The method of claim 1, further comprising the steps of measuring said adjusted common mode voltage and comparing said measured common mode voltage to one or more predefined voltages.

15 3. The method of claim 1, further comprising the steps of measuring said adjusted common mode voltage and maintaining said measured common mode voltage between two predefined voltages.

4. The method of claim 1, wherein said step of injecting a current is performed by a charge pump.

20 5. The method of claim 4, wherein said charge pump is integrated with a CML transmit buffer.

25 6. The method of claim 4, wherein said charge pump is integrated with an H-bridge type of transmit buffer.

7. The method of claim 4, wherein said charge pump is controlled by an amplitude control circuit.

8. A receiver detection circuit for use in a transmitter connected to a PCI-Express link, comprising:

an amplitude control circuit to adjust a common mode voltage by initiating an injection of current into one or more transmitter output nodes; and

5 a timer for detecting whether a receiver is present on said PCI-Express link based on a voltage change rate.

9. The receiver detection circuit of claim 8, further comprising a common mode detection circuit to measure said adjusted common mode voltage.

10. The receiver detection circuit of claim 9, wherein said common mode detection circuit is comprised of two resistors connected in series between said transmitter output nodes, out+ and out-.

11. The receiver detection circuit of claim 9, wherein said common mode detection circuit measures said adjusted common mode voltage and compares said measured common mode voltage to one or more predefined voltages.

12. The receiver detection circuit of claim 9, wherein said common mode detection circuit measures said adjusted common mode voltage and maintains said measured common mode voltage between two predefined voltages.

13. The receiver detection circuit of claim 8, further comprising a timer to measure a change rate of said adjusted common mode voltage to determine whether a receiver is present.

14. The receiver detection circuit of claim 13, wherein said timer generates a detection output flag indicating whether a receiver is present.

15. The receiver detection circuit of claim 8, wherein said injection of current is performed by a charge pump.

16. The receiver detection circuit of claim 15, wherein said charge pump is integrated with a CML transmit buffer.

5 17. The receiver detection circuit of claim 15, wherein said charge pump is integrated with an H-bridge type of transmit buffer.

18. The receiver detection circuit of claim 15, wherein said charge pump is controlled by an amplitude control circuit.

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19. A receiver detection circuit for use in a transmitter connected to a PCI-Express link, comprising:

means for adjusting a common mode voltage by initiating an injection of current into one or more transmitter output nodes; and

15 means for detecting whether a receiver is present on said PCI-Express link based on a voltage change rate.

20. The receiver detection circuit of claim 19, wherein said injection of current is performed by a charge pump.

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